

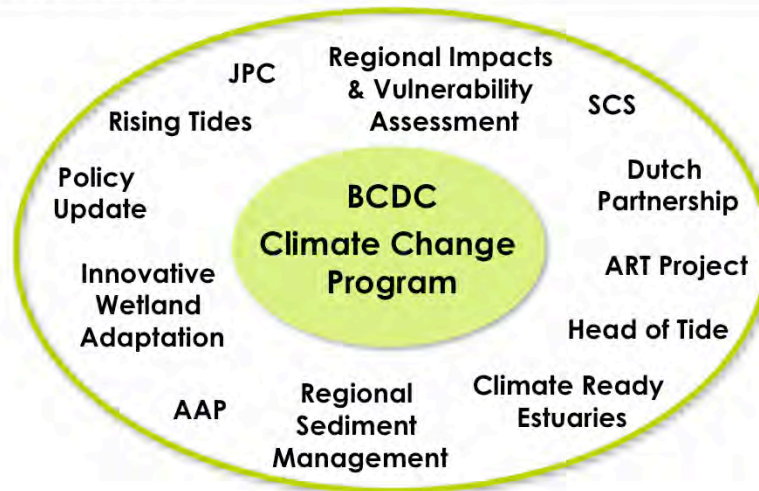
Sara Polgar, BCDC
BCDC Commission Meeting
March 3, 2011

Local Government Adaptation Assistance Program



Briefing on BCDC's Local Government Adaptation Assistance Program.

Adaptation Assistance Program (AAP) in Context



The Adaptation Assistance Program (AAP) is just one part of the Commission's Climate Change Program and supports many of BCDC's other projects and efforts.

Furthermore, the Adaptation Assistance Program by no means represents BCDC's only efforts to reach out to and help local governments plan for climate change impacts.

Outreach by BCDC staff and Commissioners throughout the region, as well as other projects such as the Adapting to Rising Tides (ART) Project are helping to build awareness and capacity among local governments for adaptation.

The focus of this briefing is on the specific efforts within the AAP to build this capacity.

Overview

- Background
- Program Overview
- Progress
- Next steps
- King Tide



Background

Everybody tells us
something different
about impacts.

It's every man for himself for
adaptation in the Bay Area.
Nobody seems to be working
together.

We have expertise, but not FTEs.

We need a more practical approach to permitting
flood control projects for adaptation.

**2100 is just not within
our planning horizon...
Neither is 2050.**

Local governments are on the front lines in terms of addressing climate change impacts, but they face tremendous barriers to this, such as:

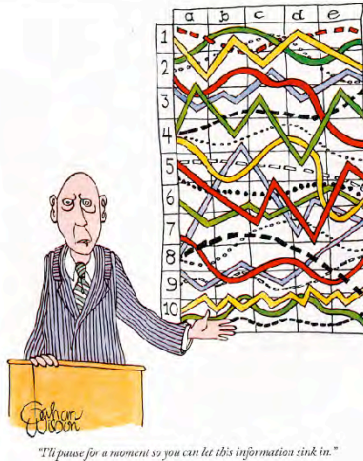
- Lack funding and staff resources, accessible and relevant scientific and policy information, political will or incentives.
- Overlapping authorities, ownership and interests, as well as the broad geographic and cross-sectoral impacts of SLR.

In 2007, BCDC staff reviewed literature on adaptation planning and surveyed Bay Area planners and resource managers to learn more about (1) the key barriers that local governments faced, (2) what they needed to overcome these challenges and (3) what they saw as an appropriate role for BCDC to take in supporting them.

This was not a research effort, but rather a means to help us prioritize some initial adaptation assistance efforts.

This slide exemplifies some of the challenges they expressed.

Background



■ "BCDC should..."

- provide information on how to consider impacts.
- provide example strategies
- be a facilitator/convenor for the region on adaptation

In a nutshell local governments are pretty overwhelmed.

This cartoon says: "I'll pause for a moment so you can let this information sink in." This overload is really what local governments face.

In terms of what they said that they wanted from BCDC:

1. BCDC should provide the information that they needed to consider impacts of sea level rise in their work.
2. Also, BCDC should provide example strategies and actions that local governments can apply in their planning efforts and development projects.
3. And, they wanted BCDC to be a facilitator and convener for the region to move forward a coordinated approach to adaptation -- to help the region in coming to agreement on everything from impacts scenarios, to adaptation approaches, to shoreline design standards.

Program Overview

Help local governments assess their communities' climate risks and plan for and implement adaptation strategies

- Information, tools and training to help local governments:
 - Build support for addressing climate change impacts
 - Integrate adaptation into ongoing planning efforts
 - Find resources for adaptation planning and implementation
- Outreach and partnerships to coordinate and leverage adaptation planning resources and efforts
- Target audiences
 - Land use planners & resource managers

Based on this input, BCDC staff identified program components—all serving a overarching goal of increasing Bay Area local governments' capacity to do adaptation planning and implement adaptation strategies – that would be appropriate and feasible for BCDC to pursue.

These fell under 2 themes:

1. Directly provide and help local governments gain access to resources like information, tools, and trainings that are relevant and supportive of their efforts to plan for climate change impacts.
2. Reach out to other organizations and agencies at all levels to coordinate on providing these resources, and to leverage the expertise and funding that they can bring to the region.

These assistance efforts should be directed towards addressing the needs of planners and managers working in shoreline land use planning, public works, park and open space districts, flood control districts and wastewater authorities, as well as resource-based managers.

Resources: Bay Area Local Governments

http://www.bcdc.ca.gov/planning/climate_change/climate_change

- Science and Impacts
- Adaptation Planning Principles and Process
- Tools, Data Sources and Example Adaptations
- Engaging Communities and Decision-Makers
- Case Studies and Example Plans
- State and Regional Efforts

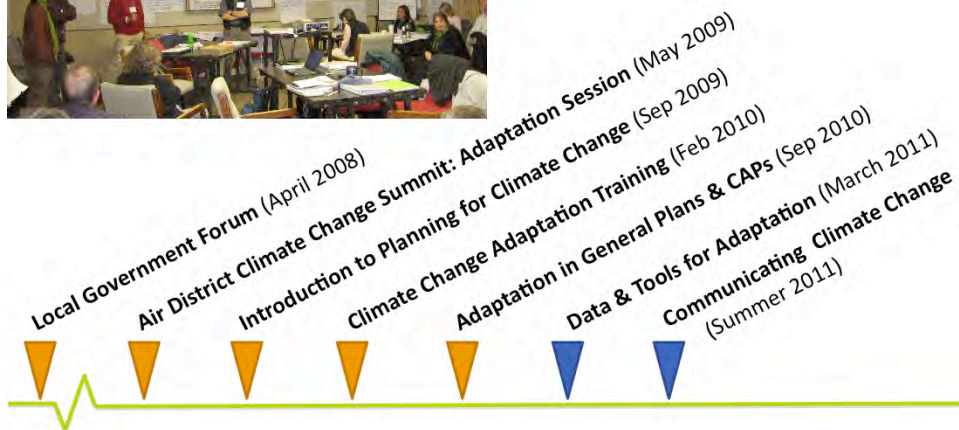
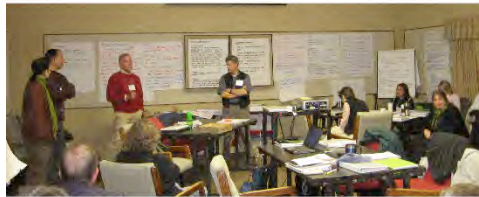


Bay Area local governments were overwhelmed by the volume of information emerging about climate change impacts. They found it difficult to know what was relevant to their work, and at the time, none of the information was compiled anywhere, so they didn't know where to find it all.

This barrier led to an initial effort for the AAP: to review the ever-growing mass of literature on impacts and adaptation, and compiled a resource list of information, tools and guidance on adaptation planning that are most relevant to Bay Area local governments.

This resource list is available at our website at the link on this slide. Resources are organized under the topics shown, and each resource has a brief description of what it is (and, in many cases, why it might be of interest to a Bay Area local planner or resource manager). The latest overhaul of the resource list was completed in January 2011, and additions and updates are ongoing. Please let others know about this resource, and let BCDC Staff know if there are resources that needed.

Educational Workshops & Trainings



Education and outreach have been a big thrust of early AAP efforts. This is driven by the need for increased awareness and capacity for adaptation planning at the local level, as well as methods for assessing effects of these and developing adaptation strategies. It is also driven by the availability of resources to support education.

This timeline shows that over the past 2.5 years BCDC has (with tremendous help from partners) developed, organized and led a variety of workshops and trainings on climate change impacts in the San Francisco Bay Area, and how to plan for these.

The educational events have drawn a range of audiences from locally elected officials, to local planners and public works staff, to natural resource managers.

The earlier workshops tended to be broader and more introductory such as the two, 1-day workshops held in September 2009 in Oakland and Sunnyvale, “Planning for Climate Change”. In February 2010 BCDC and our partners held an intensive 5-day training on adaptation planning at the Marconi Center in Tomales Bay.

Staff has used the feedback from earlier trainings to target more recent and upcoming efforts to address immediate needs that local governments identified.

Partnerships





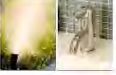
It is very important to recognize the expertise, funding and other support partners have contributed to these training events. BCDC brings considerable expertise, as well as regional and local knowledge to the table, and BCDC has leveraged partners' expertise, staff time and funding to develop and offer the workshops or trainings.

A key emphasis in the AAP has been to rely on local or regional agency experts and scholars, and bring resources to the Bay Area that will support local government adaptation planning.

Based on a back-of-the-envelope (very conservative) estimate, the AAP has been able to leverage >\$100,000 of direct money spent on developing and offering these educational opportunities, and time from other organizations' staff and other experts such as Suzanne Moser. As a result, these workshops and trainings – including the 5-day training last February 2010– have all be offered at no cost, or a nominal fee for attendees.

“Addressing Climate Change Impacts and Adaptation in Climate Action Plans and General Plan Updates” (Sep. 13, 2010)

- 3 case studies
 - Marin County General Plan Update
 - Berkeley Climate Action Plan
 - Chula Vista Adaptation Strategies

WATER & CLIMATE CHANGE		
Potential Changes	How can Chula Vista be affected?	How can Chula Vista prepare?
 <ul style="list-style-type: none"> Wetter wet years & drier dry years 20% or more reduction in imported water sources Overall 18% shortfall in water supply by 2050 	<ul style="list-style-type: none"> Longer & more intense droughts Lower groundwater supplies for private wells Need for more local water supplies Increased cost for water More concentrated pollution in runoff Higher flooding risk 	 <ul style="list-style-type: none"> Improve efficiency thru new codes & retrofit programs Monitor groundwater supplies & protect recharge areas Promote & expand graywater/recycled water availability Update City stormwater management plans

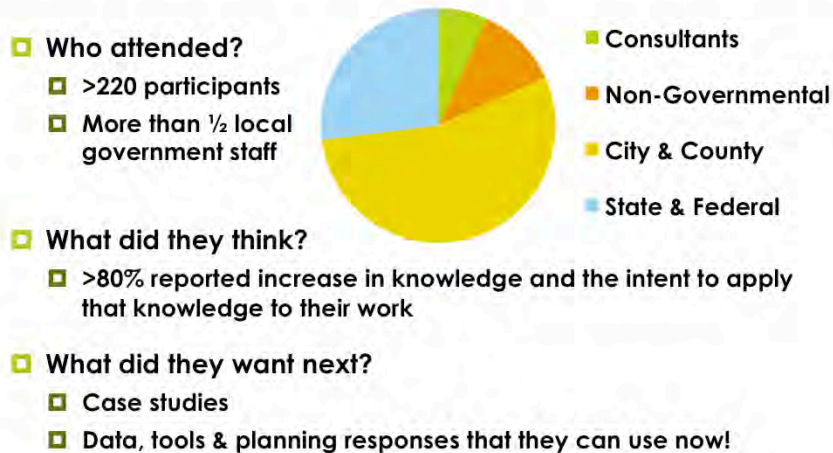
The most recent workshop, “Addressing Climate Change Impacts and Adaptation in Climate Action Plans and General Plan Updates” was a ½-day held this past fall at the Oakland MetroCenter. More than 45 attendees.

Three case studies were presented by guest speakers about Marin County’s General Plan (GP) Update, Berkeley’s Climate Action Plan (CAP), and Chula Vista ‘s Adaptation Strategies. These case studies touched upon many of the same themes such as motivations, key participants, resulting strategies and actions, etc.

These case studies definitely resonated with workshop participants, and there was an engaging discussion. Some of the highlights were:

- Exploring pros and cons of adaptation in a CAP vs a GP update
- Learning about the different time and staff requirements and costs, as well as sources of funding and in-kind support
- Common theme: Local staff focused on doing what’s easy first and taking credit for greenhouse gas mitigation measures or sustainability strategies that were also adaptive. These types of easy successes gave local government staff some footing in working with stakeholders and agency partners on adaptation in these planning efforts.

Educational Workshops & Trainings



Who attended these workshops and trainings?:

All of these events have been attended to full capacity, reaching a more than 220 different participants.

More than ½ of attendees were city and county staff or elected officials, and most of this category were city & county land use planners.

Overall, participants found the workshops and trainings to be very worthwhile with more than 80% saying that their knowledge of climate change increased and that they intended to apply what they learned in their work.

What next? Local government staff wanted:

1. Specific examples of planning efforts and projects that consider climate change impacts and include adaptation.
2. More hands-on training or experiences with data and tools and planning responses that they can utilize right now to help them communicate with their communities about adaptation, assess their climate risks, and integrate adaptive measures into plans and project designs.

Case Studies

- ## ■ Examples of Bay Area planning efforts and projects that address climate change impacts

CLIMATE CHANGE ADAPTATION IN ACTION

Local Governments Factor Future Sea Level Rise Into Coordinated Watershed-Level Flood Protection

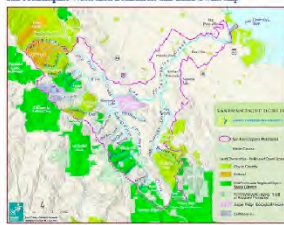
*San Francisquito Creek Joint Powers Authority:
Highway 101 to San Francisco Bay Flood Protection Project*

Synopsis

Many Bay Area communities will face increased flood risk as sea level continues to rise and storm and flooding events potentially become more intense.¹ Communities along the San Francisco Creek are no exception, and sea level rise stands to exacerbate existing flood protection challenges that have occurred in the past with heavy storms causing millions of dollars in damages. The San Francisco Creek Joint Powers Authority (SFCJPA), covering a 30,000 acre watershed, has sought to address these challenges by working to improve flood protection, recreational opportunities and habitat benefits to multiple communities at once.² This SFCJPA San Francisco Bay to Highway 101 flood protection project has been

designed to protect against a 100-year San Francisco Creek flow event happening at the same time as a 100-year high tide event, that includes 26 inches of sea level rise. The SFCJPA assumed this design would be resilient until X. For this project, finding common ground among all interested parties was key in incorporating innovative flood protection techniques. To address the diverse interest of the SFCJPA partners and project stakeholders, the fundamental goal of the effort is to turn this waterway that currently divides multiple, neighboring communities into one that unites them around a more natural system that is less prone to flooding.

San Francisco Waterbed Boundaries and Land Ownership



THE LAY OF THE LAND

The San Francisco Creek Watershed covers 46 square miles and includes six towns: Orinda Park, East Palo Alto, Palo Alto, Woodside, Portola Valley, Atherton; two county food control districts, local, state and national park sites; major rail and highways, a regional airport; and numerous other critical facilities. The defining natural feature of the watershed is San Francisco Creek, which serves as the dividing line between two counties and several cities, and is a perennial stream that originates in the foothills of the Santa Cruz Mountains. A diverse array of land uses occur adjacent to the Creek, including protected open space, residential, light industrial, and protected

To address the requests for examples, the AAP, San Francisco National Estuarine Research Reserve (SF NERR) Coastal Training Program, and NOAA Coastal Services Center (CSC) are working together on developing a series of case studies of Bay Area local planning efforts and projects that address climate change impacts. The idea for these case studies emerged from the Fall workshop as well as the Commission's Bay Plan Amendment workshops.

Target audiences for the case studies are local land use planners and resource managers who are interested in seeing examples of how others in the region have assessed climate change risks and incorporated policies and actions into local plans and/or adaptive design features into projects.

Both a longer, more detailed format, as well as a 1-pager for each case study for broader "public" consumption are in development.

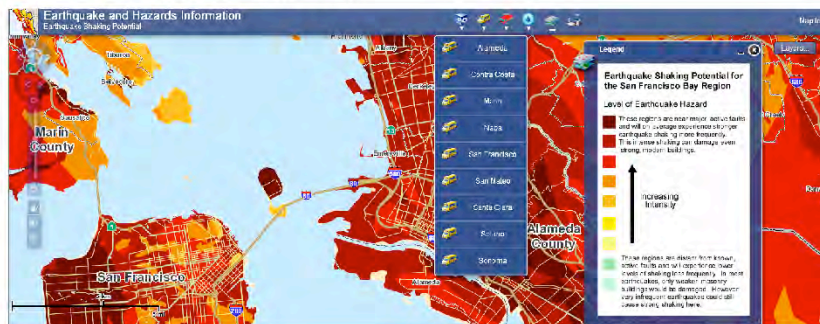
The first three (look for these end of March 2011):

- San Francisquito Creek Joint Power Authority Flood Protection Project that is designed to accommodate over 20" of SLR
- Berkeley Climate Action Plan
- Pinole General Plan Update.

Other case studies under consideration include more projects such as the Treasure Island redevelopment and a small waterfront public access project, and Staff is open to suggestions.

Data & Tools ½-Day Workshop: March 30th, Oakland MetroCenter

- Presentations and demos from:
 - ICLEI Local Governments for Sustainability
 - Pacific Institute
 - ABAG Earthquake & Hazards Program
 - CalAdapt Data Portal



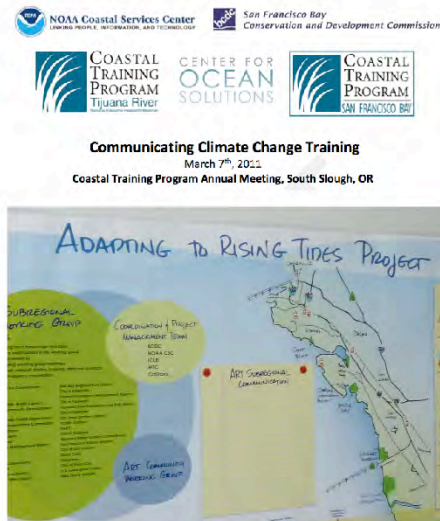
Coming up March 30, 2011 is a ½-day workshop, “Data and Tools for Incorporating Climate Change Impacts and Adaptation into Community Planning and Project Designs.” The AAP is working with the SF NERR Coastal Training Program, EBM Tools Network and ICLEI Local Governments for Sustainability on this.

The workshop will introduce data and tools that support local adaptation planning. Examples include: information about impacts that can be searched and imported into a mapping program for planners to do local assessments; tools that make it easy for someone to map or visualize how climate change impacts like sea level rise might affect important community assets like schools, transportation infrastructure, neighborhoods, habitats, along with other stressors on these resources such as wildfires and earthquakes. At this workshop, participants will hear presentations and see demos of some very exciting tools that are (or soon will be available).

Following the workshop, ICLEI will be kicking off a brown bag series on adaptation for local governments. They will present some examples of how ADAPT tool is being piloted in communities across the country, and lead a discussion.

Next Steps

- **Communicating Climate Change Impacts & Adaptation Training (Summer 2011)**
- **Support for the ART Project Sub-Regional and Community planning**
- **Regional Impacts Assessment Science Symposium (Fall 2011)**



Other next steps:

The AAP will be offering a workshop to share strategies and methods for Communicating Climate Change Impacts and Adaptation this Summer. This is something that local governments have been clamoring for, so Staff has been working with partners to develop a curriculum. This training will be piloted in Oregon in March and the plan is to bring it to the Bay Area in Summer 2011.

Many of the AAP efforts over the next 18 months will be directed towards supporting the Adapting to Rising Tides (ART) Project and the Regional Impacts and Vulnerability Assessment, working within the ART subregion to facilitate the community-scale impact assessment, build capacity and help regionalize the ART Project and Regional Assessment.

Contact info

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King Tide

- Documenting extreme high tides in the Bay
 - engage the public around concept that today's high tide could be tomorrow's daily average tide
 - create a living catalog of images available to the region
 - encourage citizens to get involved and outside!

<http://www.flickr.com/groups/bayareakingtides/>



The King Tide Photo Initiative is presented on behalf of NOAA Coastal Management Fellow, Heidi Nutters, who is the BCDC lead on the project.

King Tides are extreme high tide events that occur when sun and moon's gravitation forces reinforce one another at times of the year when the moon is closest to the earth. They happen 2 times per year, but they are typically more dramatic during the winter.

The King Tide Photo Initiative encourages citizens to photograph extreme high tides to (among other things):

- engage the public around the idea that today's high tide is tomorrow daily average tide with sea level rise
- document high tide events and to create a visual catalog for region
- encourage citizens to get involved and outside.

BCDC is partnering on this project with National Weather Service, SF Bay NERR, CSC, CA Coastal Commission, Gulf of the Farallones National Marine Sanctuary.

SF Embarcadero
February 17, 2011

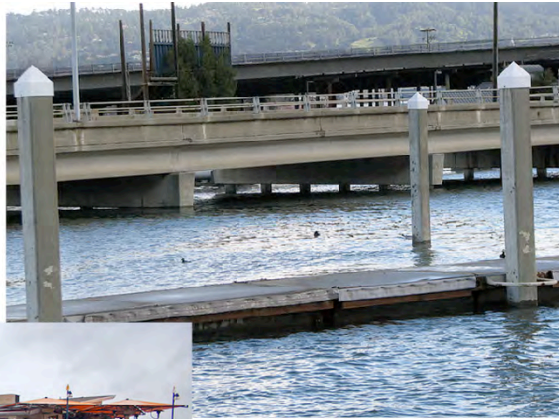


Arrowhead Marsh
January 21, 2011

This project is linked with other regional efforts, including in British Columbia, Washington and Oregon. In addition, the Bay Area partners have worked closely with the CA Coastkeeper and Tijuana Bay NERR to cover the entire CA coast this year!

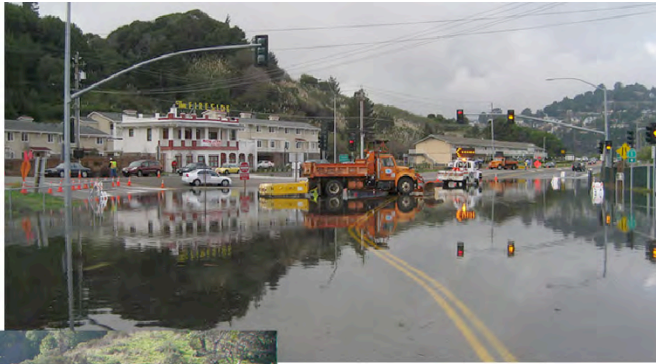
So far, there have been >170 photo submissions from around the Bay.

Channel to Lake Merritt
February 16, 2010



Jack London Square
February 18, 2011

Marin City
January 30, 2010



China Camp Visitor Parking
January 20, 2011.

Tides elsewhere...



Final thought...

- The first photo, upper left, shows three vehicles parked in front of the Anchor Blue pub in Bosham, England. Note the small sign by the car on the left.
- The second photo shows the same sign, now submerged at high tide. The sign reads, "This road floods each tide."
- The third photo, seen at the bottom, is an example of an adaptation made by the owners of the Anchor Blue pub, which is the installation of a watertight bulkhead door on the side of the building that faces the road.